Report:

Is there a tradeoff between image quality and degree of compression?

Answer: Yes, there is.

 What would be a good value of K for each of the two images?

The higher k value is the better the image looks like, from my personal preference the good K value for both image are k=15 and when the algorithm converge or repeated many times. (It is too slow to run when iteration and k are both large. Both type of images uploaded have iteration =1)
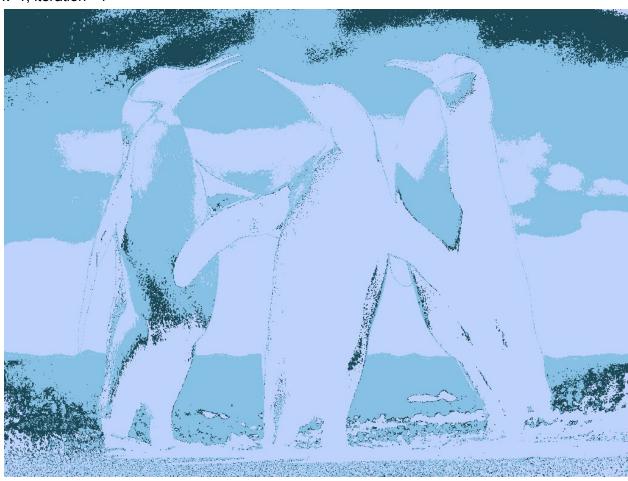
k=5, iteration = 1

K = 10, iternation = 1

k=15, iteration =1

k=1, iteration =1

k=5, iteration =1

k=15,iteration = 1

k=20, iteration=1